

**WELL TWINNING TECHNIQUES
IN BOREHOLE SURVEYING**

ABSTRACT OF THE DISCLOSURE

A method for surveying a borehole is provided. The method includes providing a tool having a magnetic field measurement device disposed thereon and positioning the tool in a borehole. Magnetic interference vectors are determined at at least two positions in the borehole by comparing the measured magnetic fields at those positions with a known magnetic field of the earth. The magnetic interference vectors indicate a direction to a target subterranean structure. Various embodiments of the invention compare the directions to the target subterranean structure with a historical survey thereof, so as to determine a distance between the borehole and the subterranean structure and an azimuth of the borehole. The surveying methodology of this invention may advantageously improve borehole surveying data obtained, for example, in relief well and/or well twinning drilling applications.